WHAT IS CLAIMED IS:

1. A catalyst composition comprising silver and an alkali metal promoter deposited on a carrier, which alkali metal promoter comprises potassium in a quantity of at least 5 μmole/g, relative to the weight of the catalyst composition; and, an alkali metal selected from the group consisting of lithium, sodium and mixtures thereof in a quantity of at least 1 μmole/g, relative to the weight of the catalyst composition.

2. The catalyst composition of claim 1, wherein the potassium promoter is present at a concentration of at least 10 μmole/g, relative to the weight of the catalyst composition.

3. The catalyst composition of claim 1, wherein lithium is present at a concentration of at least 5 μmole/g, relative to the weight of the catalyst composition.

4. The catalyst composition of claim 1, wherein sodium is present at a concentration of at least 5 μmole/g, relative to the weight of the catalyst composition.

5. The catalyst composition of claim 1, wherein lithium and sodium are each present at a

concentration of at least 10 μmole/g, relative to the weight of the catalyst composition.

6. The catalyst composition of claim 1, wherein the carrier comprises an α-alumina having a BET surface area of 0.1 m^2/g to 25 m^2/g, and an apparent porosity of from 0.1 ml/g to 1.2 ml/g, measured by water absorption.

7. The catalyst composition of claim 1, wherein the carrier comprises a silver bonded calcium carbonate having a crush strength of at least 22 N.

8. The catalyst composition of claim 1, wherein the carrier comprises a silver bonded calcium carbonate wherein the weight ratio of silver to calcium carbonate is from 1:5 to 1:100.

9. The catalyst composition of claim 1, wherein the carrier comprises a silver bonded calcium carbonate having a specific surface area of from 1 m^2/g to 20 m^2/g.

10. The catalyst composition of claim 1, wherein the carrier comprises a silver bonded calcium carbonate having a specific surface area of from 3 m^2/g to 15 m^2/g.

11. The catalyst composition of claim 1, wherein the carrier comprises a silver bonded calcium carbonate having an apparent porosity of from 0.05 ml/g to 2 ml/g.

12. The catalyst composition of claim 1, wherein the carrier comprises a silver bonded calcium carbonate having an apparent porosity of from 0.1 ml/g to 1.5 ml/g.

13. The catalyst composition of claim 1, wherein the carrier comprises at least 95 %w α-alumina.

14. A process for preparing an olefin oxide which process comprises:

reacting an olefin having at least 3 carbon atoms with oxygen in the presence of a catalyst composition comprising silver and an alkali metal promoter deposited on a carrier, which alkali metal promoter comprises potassium in a quantity of at least 5 μmole/g, relative to the weight of the catalyst composition, and an alkali metal selected from the group consisting of lithium, sodium and mixtures thereof in a quantity of at least 1 μmole/g, relative to the weight of the catalyst composition.

15. The process of claim 14 which is further conducted in the presence of a nitrate or nitrite forming compound.

16. The process of claim 14, wherein the potassium promoter is present at a concentration of at least 10 μmole/g.

17. The process of claim 14, wherein lithium is present at a concentration of at least 5 μmole/g.

18. The process of claim 14, wherein sodium is present at a concentration of at least 5 μmole/g.

19. The process of claim 14, wherein lithium and sodium are each present at a concentration of at least 10 μmole/g.

20. The process of claim 14, wherein the carrier comprises an α-alumina having a BET surface area of 0.1 m^2/g to 25 m^2/g, and an apparent porosity of from 0.1 ml/g to 1.2 ml/g, measured by water absorption.

21. The process of claim 14, wherein the carrier comprises a silver bonded calcium carbonate having a crush strength of at least 22 N.

22. The process of claim 14, wherein the carrier comprises a silver bonded calcium carbonate

wherein the weight ratio of silver to calcium carbonate is from 1:5 to 1:100.

23. The process of claim 14, wherein the carrier comprises a silver bonded calcium carbonate having a specific surface area of from 1 m^2/g to 20 m^2/g.

24. The process of claim 14, wherein the carrier comprises a silver bonded calcium carbonate having a specific surface area of from 3 m^2/g to 15 m^2/g.

25. The process of claim 14, wherein the carrier comprises a silver bonded calcium carbonate having an apparent porosity of from 0.05 ml/g to 2 ml/g.

26. The process of claim 14, wherein the carrier comprises a silver bonded calcium carbonate having an apparent porosity of from 0.1 ml/g to 1.5 ml/g.

27. The process of claim 14, wherein the carrier comprises at least 95 %w α-alumina.

28. A method of making a 1,2-diol or a 1,2-diol ether comprising converting an olefin oxide into a 1,2-diol or 1,2-diol ether wherein the olefin oxide has been obtained by a process comprising reacting an olefin having at least 3 carbon atoms

with oxygen in the presence of a catalyst composition comprising silver and an alkali metal promoter deposited on a carrier, which alkali metal promoter comprises potassium in a quantity of at least 5 μmole/g, relative to the weight of the catalyst composition, and an alkali metal selected from the group consisting of lithium, sodium and mixtures thereof in a quantity of at least 1 μmole/g, relative to the weight of the catalyst composition.